

# **Solid Waste Management**

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# **Solid Waste:** What are the Problems

**Eight million tons per year in  
Missouri (\$16 per ton to manage it)**

**Wasted Resources (not sustainable  
in the long term)**

**Health concerns and Environmental  
impacts**



# **Solid Waste:** What are the Solutions

“Before” - waste reductions / waste prevention

“During” - reuse, recycle, compost

“After” - disposal: burn it or bury it

# Trends in Trash

**Fewer, but larger  
landfills**

**More transfer  
stations**

**Better  
environmental  
controls**

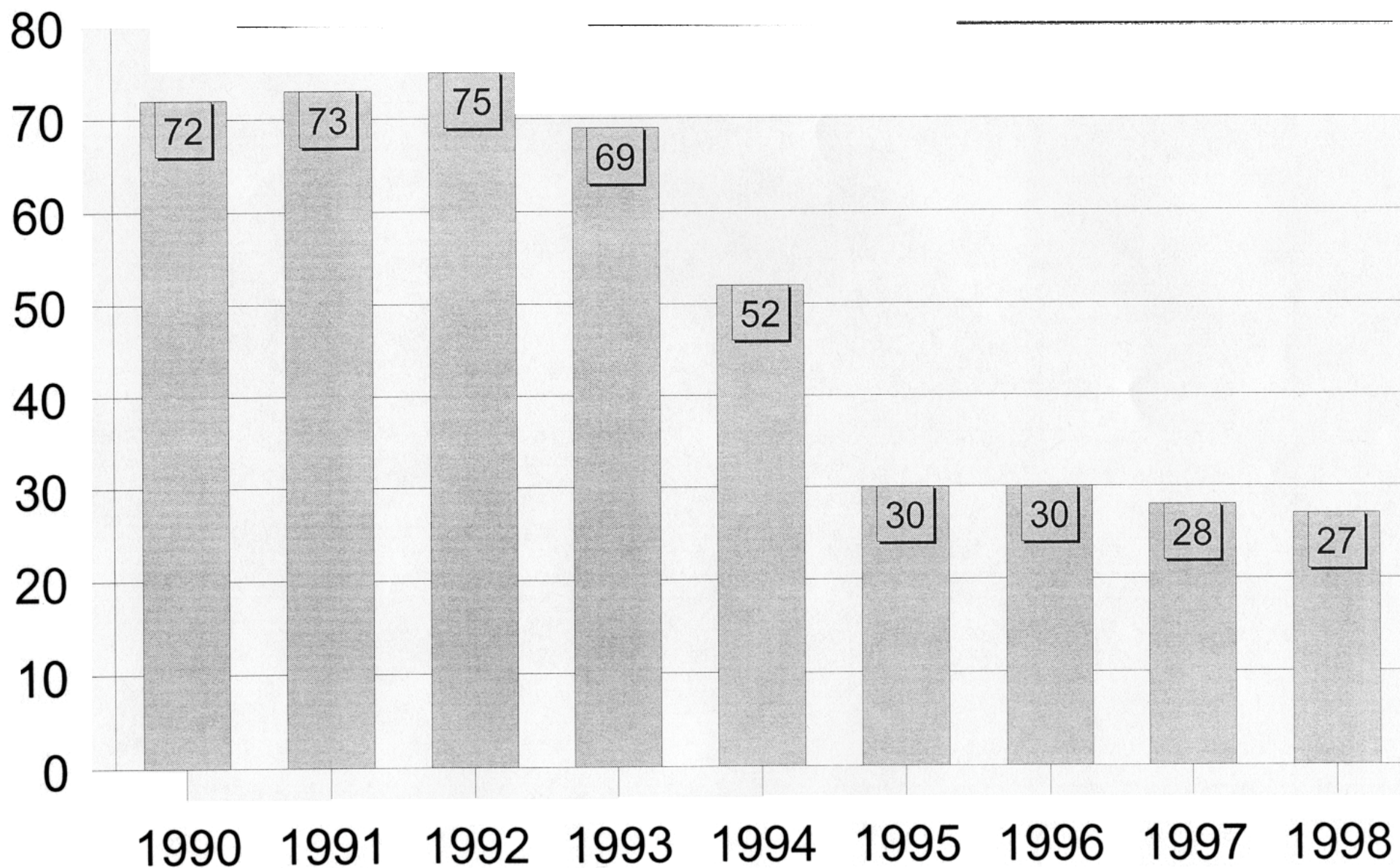
**More recycling and  
composting**

**Integrated waste  
management**



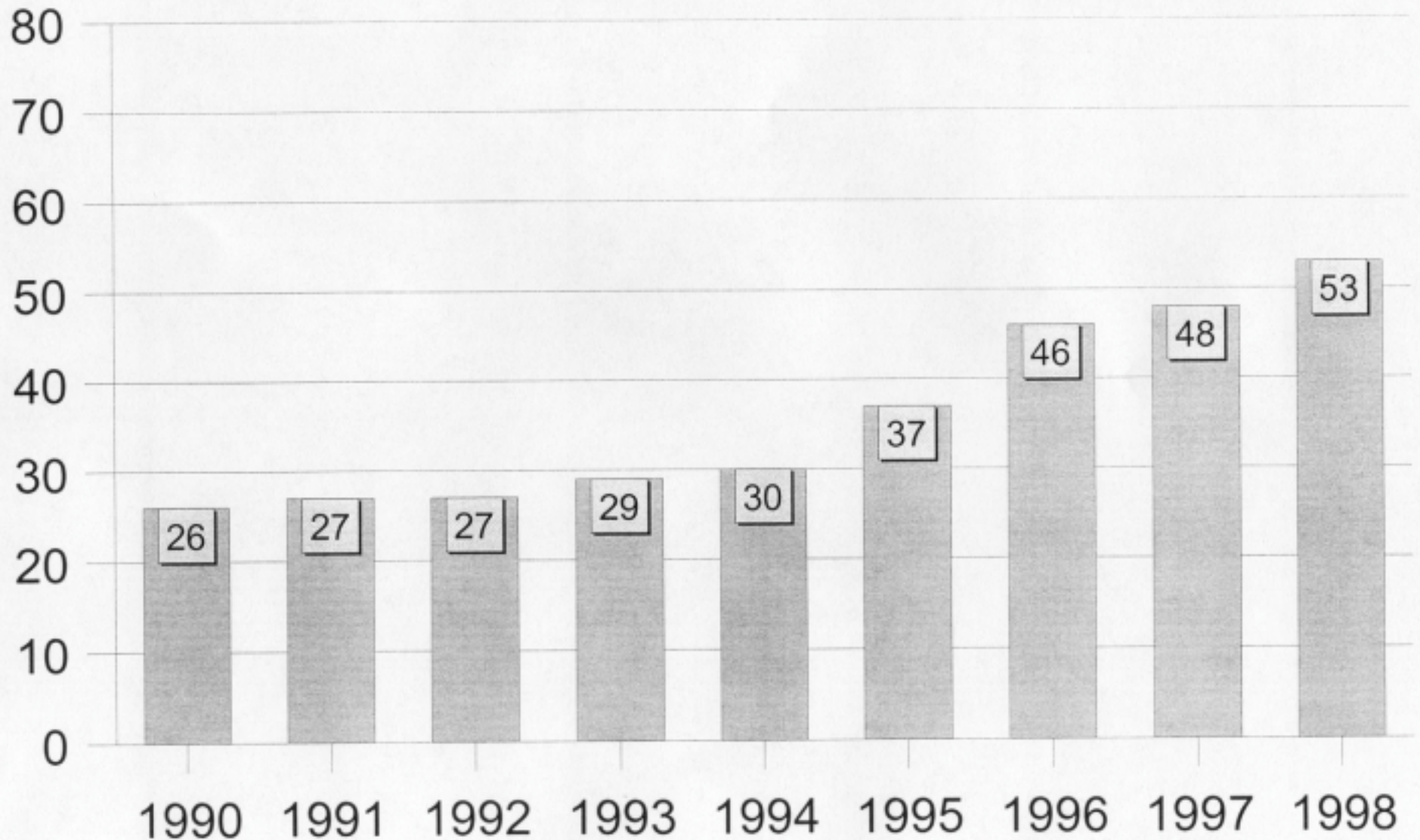
# Number of Landfills Receiving Waste

1990 through 1998



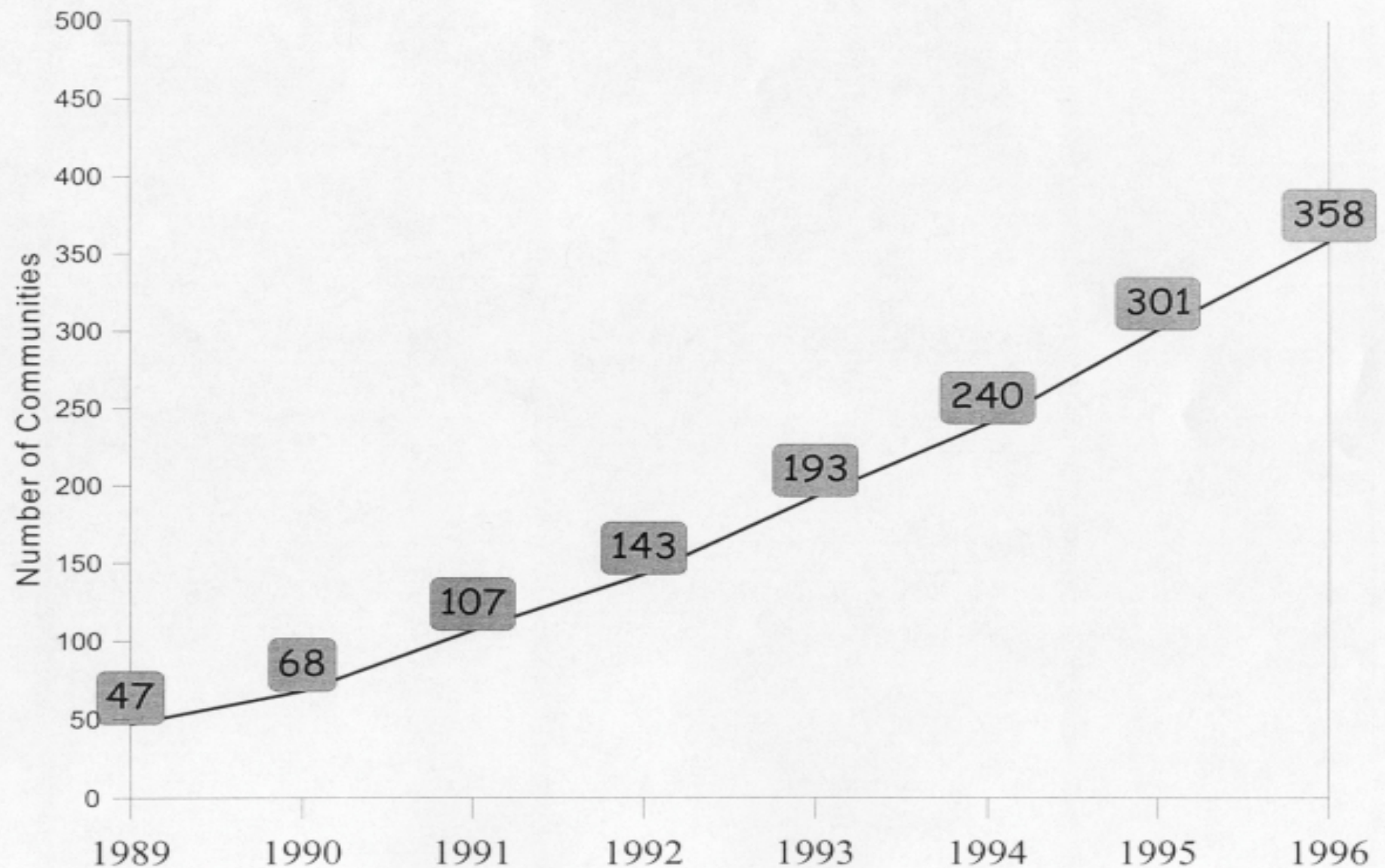
# Number of Transfer Stations

1990 through 1998

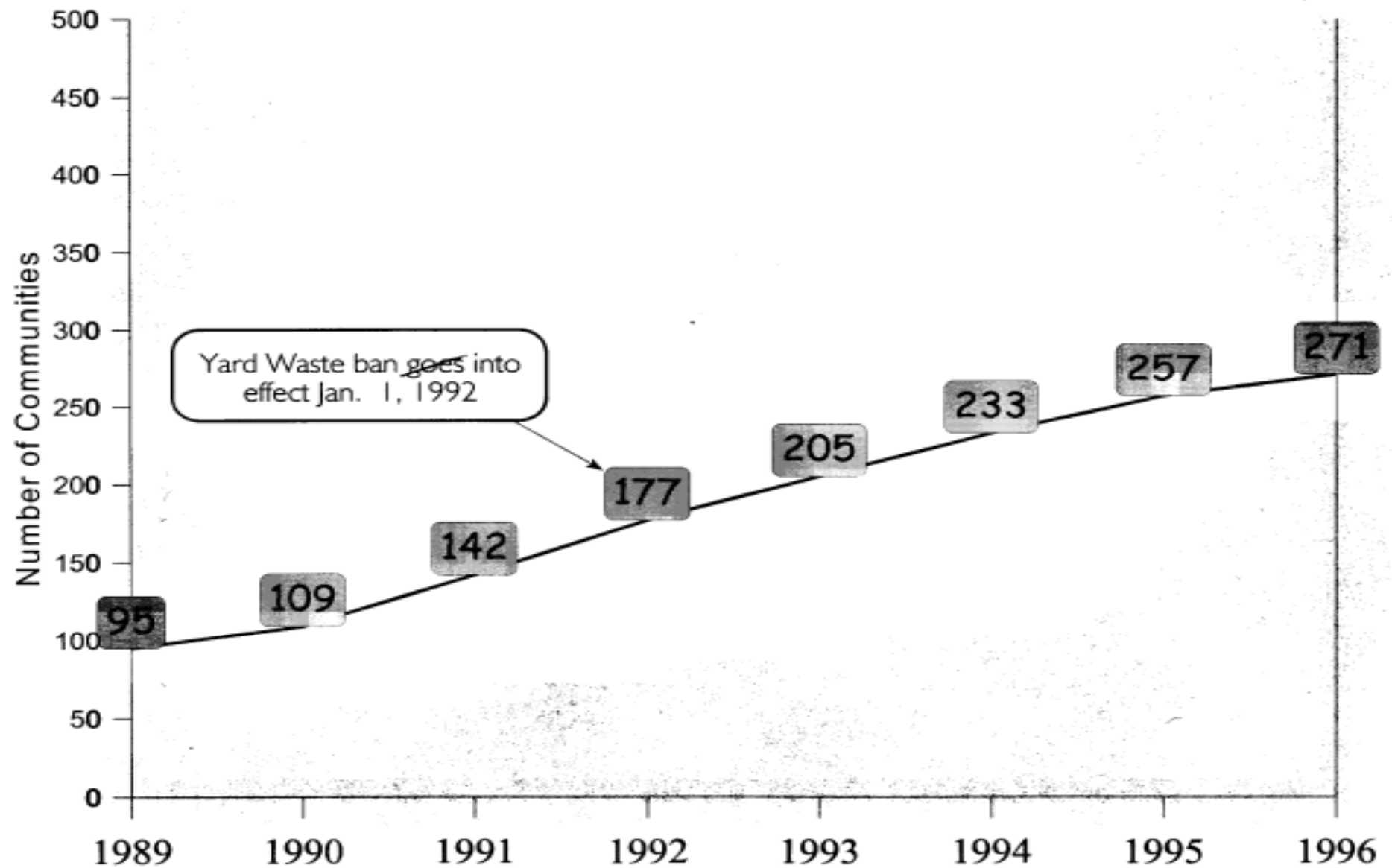




# Recycling Collection Services in Missouri Communities



# Yard Waste Collection Services in Missouri Communities





# **Items Banned From Landfills (SB 530)**

**1-1-91      Lead-Acid Batteries,  
Major Appliances, Whole  
Tires, Waste Oil**

**1-1-92      Yard Waste**

**1-1-94      Small quantities of  
hazardous wastes**

# Status of Missouri's Waste Reduction Goal

In 1990, SB 530 recommended a 40% waste reduction goal by 1998.

	<u>1990</u>	<u>1997</u>
Waste Generated (mt)	7.54	7.9
Waste Sent to Landfills (mt)	6.8	5.5
Waste Recovered (mt)	0.74	2.4
Percent Reduction	10%	30%



# Integrated Waste Management Hierarchy



**Reduce**

**Reuse ~ Recycle ~ Compost**

**Incinerate with  
Energy Recovery**

**Incinerate or  
Landfill**

# Guidelines for SWM Planning

1. Know your waste stream: what, how much, by whom and variations
2. Assess existing services
3. Public participation
4. Determine services needed - consider all IWM components
5. Identify options and costs to meet needs
6. Implementation and financing of plan
7. Evaluation



# Waste Stream Analysis

**Who generates the waste?  
(residential, commercial, industrial, etc?)**

**How much waste is generated?  
(consider both weight and volume)**

**What is the composition of the waste and  
percent of each component?**

**What variations and projections should be  
considered?**

# Unit Based Pricing

- “Pay-As-You-Throw” waste collection system - set fee for bags or tags
- Consumers pay for actual volume or weight of trash
- Provides incentive to reduce, reuse and recycle
- Less waste, less cost, more equitable
- **ALTERNATIVE:** Monthly flat rate - no incentive for waste reduction



# Full Cost Accounting (FCA)

**FCA is a systematic approach for identifying, summing and reporting the actual costs of SWM, including past and future outlays, overhead costs and operating costs.**

# Full Cost Accounting (FCA) (continued)

**FCA can also help you to:**

- **Evaluate your SWM program and plan ahead**
- **Make better and more informed decisions**
- **Improve efficiency**
- **Justify financing**
- **Communicate to the public**



# Public Education

**Goal: A more informed citizenry that can actively participate in solving its community's solid waste problems.**

**Objectives**

**Methods**

**Evaluation**



# Technical and Financial Assistance Sources

## State Agencies

- **DNR (800-361-4827)**
  - **Air and Land Protection Division**
  - **Communications and Education Office**
  - **EIERA Market Development Program**

## Federal Agencies

- **EPA Region VII (913-551-7000)**

# Technical and Financial Assistance Sources

## Others

- **Midwest Assistance Program - RD Grants  
(Kristi Wilson, 816-246-1203)**
- **Local - Solid Waste Management Districts**
- **Missouri Recycling Association (MORA)**
- **Solid Waste Association of North America  
(SWANA)**



# Questions?

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